Complete Summary

GUIDELINE TITLE

Acne.

BIBLIOGRAPHIC SOURCE(S)

Finnish Medical Society Duodecim. Acne. In: EBM Guidelines. Evidence-Based Medicine [Internet]. Helsinki, Finland: Wiley Interscience. John Wiley & Sons; 2007 Apr 4 [Various].

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Lauharanta J. Acne. In: EBM Guidelines. Evidence-Based Medicine [CD-ROM]. Helsinki, Finland: Duodecim Medical Publications Ltd.; 2007 Jan 4 [various].

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Acne, including:

- Comedonic acne (a. comedonicus)
- Common acne (a. vulgaris) or pustular acne
- Cystic acne (a. cystica)
- Acne conglobata
- Acne fulminans

GUIDELINE CATEGORY

Treatment

CLINICAL SPECIALTY

Dermatology
Family Practice
Internal Medicine
Pediatrics

INTENDED USERS

Health Care Providers
Physicians

GUIDELINE OBJECTIVE(S)

Evidence-Based Medicine Guidelines collect, summarize, and update the core clinical knowledge essential in general practice. The guidelines also describe the scientific evidence underlying the given recommendations.

TARGET POPULATION

Patients with acne

INTERVENTIONS AND PRACTICES CONSIDERED

Treatment

1. Skin cleansing with soap or antibacterial detergents
2. Treatment of comedonic acne with retinoic acid cream or solution, adapalen gel, or benzoyl peroxide cream or gel (3 to 10%)
3. Treatment of common acne with local antibiotics (e.g., clindamycin solution), ultraviolet light therapy, combination of clindamycin and benzoyl peroxide, and systemic treatment as indicated
4. Systemic antibiotics (tetracycline, erythromycin)
5. Local treatment and light therapy, used simultaneously with systemic treatment
6. Incision and drainage of pus-containing cysts with a large-caliber injection needle or narrow-tipped scalpel
7. Hormonal treatment for women: cyproterone acetate (an anti-androgen) + oestrogen
8. Treatment of scars by skin abrasion or laser therapy (by a dermatologist or a plastic surgeon)
9. Isotretinoin upon recommendation of a dermatologist
10. Consultation with or referral to a dermatologist

Note: Guideline developers considered several other treatment options. For a list of these, see the "Major Recommendations" field below.

MAJOR OUTCOMES CONSIDERED

- Efficacy of treatment
- Adverse effects of treatment

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The evidence reviewed was collected from the Cochrane database of systematic reviews and the Database of Abstracts of Reviews of Effectiveness (DARE). In addition, the Cochrane Library and medical journals were searched specifically for original publications.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

A. **Quality of Evidence: High**

Further research is very unlikely to change confidence in the estimate of effect

- Several high-quality studies with consistent results
- In special cases: one large, high-quality multi-centre trial

B. **Quality of Evidence: Moderate**

Further research is likely to have an important impact on confidence in the estimate of effect and may change the estimate.

- One high-quality study
- Several studies with some limitations

C. **Quality of Evidence: Low**

Further research is very likely to have an important impact on confidence in the estimate of effect and is likely to change the estimate.

- One or more studies with severe limitations

D. **Quality of Evidence: Very Low**

Any estimate of effect is very uncertain.

- Expert opinion
- No direct research evidence
- One or more studies with very severe limitations

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The levels of evidence [A-D] supporting the recommendations are defined at the end of the "Major Recommendations" field.

Classification of Acne

- Comedonic acne (a. comedonicus, See Picture 1 in the original guideline document)
    - Plenty of open or obstructed comedos, but scant inflammatory changes
- Common acne (a. vulgaris) or pustular acne (See Pictures 2 & 3 in the original guideline document)
    - Pustules and comedos
- Cystic acne (a. Cystica, See Pictures 4 & 5 in the original guideline document)
    - Cystic foci of infection that result in scars
- Acne conglobata
    - Multilobular inflammatory cysts containing volatile pus
    - Therapy-resistant, scar forming
- Acne fulminans
    - An uncommon variant of acne in young men characterized by systemic symptoms (fever, arthralgia, skeletal foci of inflammation)
    - Systemic corticosteroids, not antibiotics, are the drugs of choice.
    - Refer patients with suspected acne fulminans to a dermatologist without delay. The painful disease is not well known, and is often left untreated for a long time.

Treatment

Local Treatment

- Local treatment is usually sufficient for comedonic acne and mild common acne.
- Wash the skin with soap or antibacterial detergents.
- Comedonic acne can be treated with
    - Retinoic acid cream or solution (tretinoin [Purdy, 2005] [**A**], isotretinoin[[Purdy, 2005] [**B**])
    - Adapalen gel (Purdy, 2005) [**C**]
    - Benzoyl peroxide (3 to 10%)] (Purdy, 2005) [**A**] cream or gel
    - All above drugs can be irritating at first. Use a low concentration of the active drug initially, and advise the patient to wash the drug away after a few hours. The tolerance of the skin increases with time.
- Common acne can be treated with
    - Local antibiotics (e.g., clindamycin solution) (Purdy, 2005) [**A**]
    - Combination gel containing benzoyl peroxide and clindamycin
    - Ultraviolet light therapy (as a course of 15 treatments added to other treatment) for widespread disease
- Consider systemic treatment if the effect of local treatment is unsatisfactory 2 to 3 months from the onset of treatment.

Systemic Treatment

- Antibiotics
    - Tetracycline (Garner et al., 2003) [**B**] and erythromycin (Purdy, 2005) [**A**] are equally effective. The usual dose is 250 to 500 mg/day for a few months. Six months' treatment with tetracycline or erythromycin 1

g/day is more effective than a shorter treatment with a smaller dose. Do not use tetracyclines in children below 12 years of age.
    - Local treatment and light therapy can be used simultaneously with systemic treatment.
    - Local treatment is not sufficient in cystic acne and conglobate acne. Use systemic antibiotics or consider referral to a dermatologist. Pus-containing cysts can be drained by incising them with a large-caliber injection needle or narrow-tipped scalpel.
- Hormonal treatment for women
    - Cyproterone acetate (an anti-androgen) + oestrogen for 6 months reduce the excretion of sebaceous glands and alleviate acne.

Acne Scars

- Consider treatment of scars by skin abrasion or laser therapy (Jordan, Cummins, & Burls, 1998; Health Technology Assessment Database [HTA]-998502, 2001) [**D**] only after the activity of the disease has totally subsided.
- Scars can be treated either by a dermatologist or a plastic surgeon.

Indications for Specialist Consultation

- Severe forms of acne (a. cystica, conglobata, fulminans)
- If ordinary treatment fails, the dermatologist can consider isotretinoin. However, it has considerable teratogenicity. A program called iPLEDGE has been set up to make sure that pregnant women do not take isotretinoin and that women do not become pregnant while taking isotretinoin: see http://www.nlm.nih.gov/medlineplus/print/druginfo/medmaster/a681043.html

Related Resources

Cochrane Reviews

- There is not enough data to evaluate the effectiveness of spironolactone as treatment of acne (Farquhar et al., 2003) [**C**].

Other Evidence Summaries

- Azelaic acid may be effective in reducing inflammatory lesions and comedones in patients with acne vulgaris (Purdy, 2005) [**C**].
- Topical erythromycin appears to be effective in reducing inflammatory lesions in patients with acne vulgaris (Purdy, 2005) [**A**].
- Topical tetracycline appears to be effective in reducing acne severity, but it causes skin discolouration (Purdy, 2005) [**B**].
- Oral doxycycline is as effective as oral minocycline and oral erythromycin in reducing lesions in patients with acne vulgaris (Purdy, 2005) [**A**].

Definitions:

Levels of Evidence

A. **Quality of Evidence: High**

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D. **Quality of Evidence: Very Low**

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- Expert opinion
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CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

Concise summaries of scientific evidence attached to the individual guidelines are the unique feature of the Evidence-Based Medicine Guidelines. The evidence summaries allow the clinician to judge how well-founded the treatment recommendations are. The type of supporting evidence is identified and graded for select recommendations (see the "Major Recommendations" field).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Effective treatment of acne

POTENTIAL HARMS

Adverse Effects of Medication

- Retinoic acid cream or solution, adapalen gel, and benzoyl peroxide (3 to 10%) can be irritating at first. The tolerance of the skin increases with time.
- Isotretinoin has considerable teratogenicity

CONTRAINDICATIONS

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Tetracyclines should not be used in children below 12 years of age.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2001 Apr 30 (revised 2007 Apr 4)

GUIDELINE DEVELOPER(S)

Finnish Medical Society Duodecim - Professional Association

SOURCE(S) OF FUNDING

Finnish Medical Society Duodecim

GUIDELINE COMMITTEE

Editorial Team of EBM Guidelines

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Primary Author: Jorma Lauharanta

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

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GUIDELINE AVAILABILITY

This guideline is included in a CD-ROM titled "EBM Guidelines. Evidence-Based Medicine" available from Duodecim Medical Publications, Ltd, PO Box 713, 00101 Helsinki, Finland; e-mail: info@ebm-guidelines.com; Web site: www.ebm-guidelines.com.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

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